

**Amendments to the Claims:**

Please amend claims 3 and 39 and add new claims 40-42 as follows.

1-2. (Canceled).

3. (Currently Amended) A method for diagnosing a disease state in a patient in which 12-lipoxygenase, distinct from that found in human platelets and distinct from human 15-lipoxygenase, ~~or 12-HETE~~ is an etiological agent, which comprises:

(i) obtaining a physiological specimen from said patient; and

(ii) determining whether said ~~etiological agent or antibodies to said etiological agent~~ are 12 -lipoxygenase is present in said specimen at an elevated level; wherein the presence of said 12-lipoxygenase at an elevated level indicates said disease state.

4. (Currently Amended) The method of claim 3 in which said disease state is selected from the group consisting of an inflammatory ~~or~~ condition, an autoimmune condition, atherosclerosis, cancer growth, cancer metastasis, dysfunctional secretion of insulin in non-insulin dependent diabetics, glucose-induced oxidative stress ~~or~~ and the development of end-organ dysfunction or damage.

5. (Previously Presented) The method of claim 4, wherein said disease state is atherosclerotic vascular disease, human breast cancer, or Type II diabetes.

6-38. (Canceled).

39. (Currently Amended) A The method of claim 3 wherein said [tissue] physiological specimen is selected from the group consisting of vascular smooth muscle cells, adrenal cells, aortic endothelial cells, arterial endothelial cells, monocytes, pancreas tissue, breast tissue, renal tissue, or a tumor.

40. (New) A method of diagnosing a disease state in a patient in which 12-HETE or 12-lipoxygenase is an etiological agent, which comprises:

(i) obtaining a physiological specimen from said patient;  
and

(ii) determining whether said etiological agent is present in said specimen at an elevated level;  
wherein said 12-lipoxygenase is distinct from that found in human platelets and distinct from human 15-lipoxygenase, wherein the presence of said etiological agent at an elevated level indicates said disease state and wherein the disease state is selected from the group consisting of atherosclerosis, cancer growth and cancer metastasis.

41. (New) The method of claim 40, wherein said disease state is selected from the group consisting of atherosclerotic vascular disease and human breast cancer.

42. (New) The method of claim 40, wherein said physiological specimen is selected from the group consisting of vascular smooth muscle cells, adrenal cells, aortic endothelial cells, arterial endothelial cells, monocytes, breast tissue, renal tissue and a tumor.